

PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: A SOLVENT PREWET AND METHOD TO DISPENSE THE SOLVENT PREWET

Page 2

Dkt: 303.254US4

IN THE SPECIFICATION

On page 1, after the title, please insert the following paragraph:

A | This application is a Divisional of U.S. Application No. 09/650,876, filed August 30, 2000, which is a Continuation of U.S. Application No. 08/974,015, filed November 19, 1997, now U.S. Patent No. 6,147,010, which is a File-Wrapper Continuation of U.S. Application No. 08/749,001, filed November 14, 1996, abandoned.

Please make the paragraph substitutions indicated in the appendix entitled Clean Version of Amended Specification Paragraphs. The specific changes incorporated in the substitute paragraphs are shown in the following marked-up versions of the original paragraphs:

The paragraph beginning at page 3, line 28 is amended as follows:

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PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: A SOLVENT PREWET AND METHOD TO DISPENSE THE SOLVENT PREWET

Page 3

Dkt: 303.254US4

The paragraph beginning on page 7, line 15 is amended as follows:

Conventional processes primarily employ a three-component photoresist, with either ethyl lactate (EL) or propyleneglycol monomethylether acetate (PGMEA) as the preferred solvent component. Both of these substances have a rather high evaporation rate, however, which shrinks the process control window. To compensate, conventional systems use more photoresist as well as a greater percentage of solvent to total photoresist volume. In contrast, according to one aspect of the present invention, a low vapor-pressure solvent is used. In one embodiment a mixture of aliphatic ester and diacetone alcohol is used as the solvent component. The ratio of the materials can range from 10% ester and 90% alcohol, to 30% ester [to] and 70% alcohol. The dissipation rate of this solvent is significantly reduced over conventional solvents because diacetone alcohol has a heavier molecule, creating a very low pressure solvent. The rate of evaporation is up to ten times lower than that of the conventional solvents. One direct result is that semiconductor processing incorporating this type of solvent requires very little solvent to achieve very good resist thickness profiles. With the diacetone alcohol solvent, the process uses as little as 0.3-1.0 cc solvent prewet solution per wafer (as compared to 1.0 cc or greater solvent solution per wafer).

IN THE CLAIMS

✓
Please cancel claims 1-12 after adding the following new claims:

13. (New) An apparatus, comprising:
- a solvent dispense head in fluid communication with a source of a photo resist solution and in fluid communication with a solvent source containing a solvent that includes diacetone alcohol; and
 - a rotatable wafer-holding mechanism; and
 - a logic control unit adapted for executing a process to coat a wafer, wherein the process comprises:
 - distributing the solvent on a wafer surface; and
 - upon distributing the solvent, distributing the photo resist solution on the wafer surface.

Sub B2P2